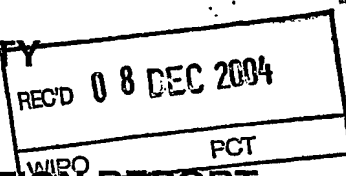


PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)


Applicant's or agent's file reference F36992WO tge	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/EP 03/08781	International filing date (day/month/year) 07.08.2003	Priority date (day/month/year) 07.08.2002
International Patent Classification (IPC) or both national classification and IPC B60T11/04		
Applicant FICO CABLES, S.A. et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
- ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 08.03.2004	Date of completion of this report 07.12.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Marx, W Telephone No. +49 89 2399-2722



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/08781**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-12 as originally filed

Claims, Numbers

3-8, 10, 11 as originally filed

1, 2, 9 received on 08.11.2004 with letter of 08.11.2004

Drawings, Sheets

1/2-2/2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/08781**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-11
	No: Claims	
Inventive step (IS)	Yes: Claims	1-11
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-11
	No: Claims	

- 2. Citations and explanations**
see separate sheet

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. The amendments filed by the applicant by way of new claims 1, 2 and 9 satisfy the requirements of Article 34(2) b).
2. Document D1 (DE-A-198 29 514) is considered to represent the most relevant state of the art.
- 2.1 D1 discloses an operating mechanism for actuating at least one parking brake comprising a first and second driving unit for driving a first and second actuating element, from which the subject-matter of claim 1 differs in that
 - the second actuating element **engages** said first actuating element in order to cause a relative movement of the first actuating element with respect to the second actuating element.

The problem to be solved by the present invention may therefore be regarded as how to provide a parking brake actuating mechanism which can actuate the parking brakes with desired operating velocities in the range from very slow to very fast without causing motor overload.

The solution to this problem proposed in claim 1 of the present application is different from what is known in the prior art, since D1 as well as D2 (DE-A-196 53 541) do not show an engagement, i. e. a direct coupling of a first and a second actuating element. D1 and D2 just show a sort of coupling in form of an equalizing arrangement which is realized by intermediate elements. Therefore, the skilled person could not find an incentive in the prior art to include such feature in the known brake control system in order to solve the problem posed.

Consequently, the subject-matter of claim 1 meets the requirements of Article 33(2)-(4) PCT with respect to novelty, inventive step and industrial application.

- 2.2 D1 discloses a method for actuating of parking brakes with an operating mechanism comprising a pair of actuating elements, from which the subject-matter of claim 9 differs in that
 - the two actuating elements engage each other in order to cause a relative movement and

- the driving units are **driven with the same as well as with the opposing rotational direction for tightening or releasing.**

The problem to be solved by the present invention may therefore be regarded as how to provide a method of actuating a parking brake which avoids overload of the driving units.

The solution proposed in claim 9, i. e. providing the possibility to drive the drive units either in the same or with opposing rotational direction, no matter whether the parking brakes are released or tightened, allows for precise velocity control without overloading the driving units and makes only sense with a differential drive realized by actuating elements engaging each other.

D1 or D2 do not show such a differential drive (see 2.1); moreover, they do not specify an operation with opposing rotational directions.

Consequently, the subject-matter of claim 9 meets the requirements of Article 33(2)-(4) PCT with respect to novelty, inventive step and industrial application.

3. Claims 2-8 and 10-11 are dependent on claims 1 and 9 and define preferred embodiments. As such they also meet the requirements of Article 33(2)-(4) PCT.

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FICO CABLES, S.A.

November 8, 2004
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Amended Claims 1, 2 and 9

- 5 1. An operating mechanism (1) for actuating at least one parking brake, particularly for motor vehicles, comprising:
- a. a first driving unit (10, 30, 90) for driving a first actuating element (40);
- 10 b. a second driving unit (60, 80, 100) for driving a second actuating element (50), characterized in that
- c. the second actuating element (50) engages said first actuating element (40) in order to cause a relative movement of the first actuating element (40) with respect to the second actuating element (50) in order to tighten or to release at least one braking cable (110, 120) for actuating the at least one parking brake.
- 15
- 20 2. Operating mechanism (1) according to claim 1, wherein the first actuating element is configured as a nut (40) and the second actuating element configured as a spindle (50), and wherein the spindle (50) is screwed into the nut (40).
- 25 9. Method for actuating of parking brakes with an operating mechanism (1), comprising a pair of two actuating elements (40, 50), engaging each other in order to cause a relative movement of the actuating elements (40, 50), wherein a first driving unit (10, 30, 90) drives a first actuating element (40) and a second driving unit (60, 80, 100) drives a second actuating element (50), and wherein for tightening or releasing of at least one braking cable (110, 120) the

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driving units (10, 30, 90, 60, 80, 100) are driven with the same as well as with the opposing rotational direction.